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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/712,945	11/16/2000	Satoshi Iwaki	034620-07	3127

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EXAMINER

LERNER, MARTIN

ART UNIT	PAPER NUMBER
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2654

DATE MAILED: 11/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/712,945

Applicant(s)

IWAKI ET AL.

Examiner

Martin Lerner

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 September 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 to 64 is/are pending in the application.
- 4a) Of the above claim(s) 46 to 64 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 to 16, 19 to 21, 23 to 25, 30, 32 to 34, 36, 37, and 39 to 45 is/are rejected.
- 7) ☒ Claim(s) 17, 18, 22, 26 to 29, 31, 35, and 38 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 5/23/02 & 7/29/03
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☒ Other: IDS: 5/21/04

DETAILED ACTION

Election/Restrictions

1. Applicants' election without traverse of Group I, Claims 1 to 45, in the reply filed on 2 September 2004 is acknowledged.
2. Claims 46 to 64 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 2 September 2004.

Specification

3. The abstract of the disclosure is objected to because it is more than 150 words. Correction is required. See MPEP § 608.01(b).
4. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: Acoustic Signal Transmission with Insertion Signal for Machine Control.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1 to 14 are rejected under 35 U.S.C. 102(e) as being anticipated by *Chen et al.* ('826).

Regarding independent claims 1 and 8, *Chen et al.* ('826) discloses a method and apparatus for transmitting acoustic signals, comprising:

“a synthesizing step for synthesizing an audible sound signal and an insertion signal to generate a synthesized sound electrical signal” – embedder-extractor 200 embeds watermark signal 102 (“an insertion signal”) into host signal 101 to generate a composite signal 103 (column 7, lines 65 to column 8, line 3: Figure 1); either or both of host signal 101B and watermark signal 102B may be part of an audio signal 360B (column 17, line 64 to column 18, line 5: Figure 3B); thus, host signal 101B may be “an audible sound signal”;

“an acoustic signal outputting step for converting the synthesized sound electrical signal to an acoustic signal and outputting the acoustic sound externally” – extractor 202 acts on post-receiver signal 105A to provide reconstructed watermark signal 106 and host signal 101B; post-receiver signal 105A is provided to an amplifier to produce an analog audio signal (column 19, lines 4 to 30: Figure 10); implicitly, host signal 101B is then played through a speaker;

“a transmitting step for transmitting the synthesized sound electrical signal” – embedding computer system 110A is coupled to transmitter 120, which transmits a

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signal over communication channel 115 for reception by receiver 125 (column 13, lines 12 to 26: Figure 1); composite signal 332 may be transmitted, such as over communication channel 115, by transmitter 120 (column 18, lines 57 to 59: Figure 3B);

“an extracting step for extracting said insertion signal from the synthesized sound electrical signal that has been transmitted” – information extractor 202 extracts watermark signal 102B and host signal 101B from post-receiver signal 105A (column 19, lines 4 to 18: Figure 3B).

Regarding claims 2, 3, 9, and 10, *Chen et al.* ('826) discloses modulator 355B for transmitter 120 and an appropriate demodulator for receiver 125 for transmission over communication channel 115 (column 18, line 57 to column 19, line 3: Figure 3B).

Regarding claims 4 and 11, *Chen et al.* ('826) discloses input-output devices 260 include a microphone and an audio speaker (column 15, lines 31 to 45: Figure 3B); audio signals 360 may be music or voice from a microphone or recording playback device (column 17, lines 16 to 18); implicitly, a microphone captures an audio signal and a speaker reproduces an audio signal.

Regarding claims 5 and 12, *Chen et al.* ('826) discloses watermarking of signals is equivalent to data hiding (column 1, lines 35 to 40).

Regarding claims 6 and 13, *Chen et al.* ('826) discloses a communication channel for television or radio transmissions (“television broadcasting” and “radio broadcasting”) (column 13, lines 21 to 26).

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Regarding claims 7 and 14, *Chen et al.* ('826) discloses audio signals 360 may be music or voice ("natural language sound") from a microphone or recording playback device (column 17, lines 16 to 18).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 19 to 21, 23 to 25, 30, 32 to 34, 36, 37, and 39 to 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Chen et al.* ('826) in view of *Rodriguez et al.*

Concerning independent claims 30 and 34, *Chen et al.* ('826) discloses a method and apparatus for transmitting acoustic signals, comprising:

"a synthesizing step for synthesizing an audible sound signal and an insertion signal to generate a synthesized sound electrical signal" – embedder-extractor 200 embeds watermark signal 102 ("an insertion signal") into host signal 101 to generate a composite signal 103 (column 7, lines 65 to column 8, line 3: Figure 1); either or both of host signal 101B and watermark signal 102B may be part of an audio signal 360B (column 17, line 64 to column 18, line 5: Figure 3B); thus, host signal 101B may be "an audible sound signal";

“a modulating step for generating a radio signal by modulating with the synthesized sound electrical signal” – modulator 355B for transmitter 120 modulates composite signal 332 for transmission over communication channel 115 (column 18, line 57 to column 19, line 3: Figure 3B).

“a transmitting step for transmitting the synthesized sound electrical signal” – embedding computer system 110A is coupled to transmitter 120, which transmits a signal over communication channel 115 for reception by receiver 125 (column 13, lines 12 to 26: Figure 1); composite signal 332 may be transmitted, such as over communication channel 115, by transmitter 120 (column 18, lines 57 to 59: Figure 3B);

“a demodulating step for receiving the radio signal and demodulating the received signal to generate the audible sound signal” – an appropriate demodulator for receiver 125 demodulates composite signal 332 received over communication channel 115 (column 18, line 57 to column 19, line 3: Figure 3B);

“an acoustic signal outputting step for converting the synthesized sound electrical signal to an acoustic signal and outputting a converted signal” – extractor 202 acts on post-receiver signal 105A to provide reconstructed watermark signal 106 and host signal 101B; post-receiver signal 105A is provided to an amplifier to produce an analog audio signal (column 19, lines 4 to 30: Figure 10); implicitly, host signal 101B is then played through a speaker;

“an extracting step for extracting said insertion signal according to the synthesized sound electrical signal demodulated in said demodulating step” –

information extractor 202 extracts watermark signal 102B and host signal 101B from post-receiver signal 105A (column 19, lines 4 to 18: Figure 3B).

Concerning independent claims 30 and 34, the only element omitted by *Chen et al.* ('826) is "a control step for controlling an apparatus according to the signal extracted in the extracting step." *Chen et al.* ('826) does not expressly say the watermark signal is used for control, only that it represents an identification mark for authentication. (Column 10, Lines 32 to 53) However, it is well known that authentication signals provide for pre-authorized playback control for music transmitted over computer networks. *Rodriguez et al.* teaches music asset management, where a watermark payload provides for pre-authorization of playback for MP3 data by indicating the number of permitted playbacks. (Column 42, Lines 51 to 58; Column 44, Lines 17 to 52) Pre-authorization of playback by watermark data for music asset management is a way of "controlling an apparatus" because a playback apparatus is controlled by the number of permitted playbacks. It would have been obvious to one having ordinary skill in the art to utilize watermark data of *Chen et al.* ('826) to control a playback apparatus as taught by *Rodriguez et al.* for the purpose of music asset management.

Concerning claims 19 to 21 and 23 to 25, *Chen et al.* ('826) discloses audio signals 360 can be both signals of separate stereo audio channels ("a plurality of channels") (column 17, lines 23 to 25); stereo audio channels are a left channel and a right channel; implicitly, a filter for high and low frequency provides left and right stereo channels.

Concerning claims 32 and 36, *Chen et al.* ('826) discloses memories 230 and memory storage devices 250 for reading from and writing to data storage (column 13, lines 26 to 33; column 14, line 62 to column 15, line 10).

Concerning claims 33 and 37, *Chen et al.* ('826) discloses FM broadcasting for radio and television signals (column 13, lines 21 to 26; column 19, lines 31 to 45).

Concerning claims 39 to 45, *Rodriguez et al.* teaches watermark data may point to a web address link to direct to a fan web-site hosted by the record label ("home page") for selling audio in CD or electronic form, web-address link or URL for advertising purposes (column 39, lines 51 to 67; column 48, line 61 to column 49, line 10; column 61, lines 37 to 67).

9. Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Chen et al.* ('826) in view of *Rothschild*.

Chen et al. ('826) omits a watermark signal for controlling the operation of a machine for performing a pre-determined motion. However, *Rothschild* teaches a sound controllable apparatus for controlling toys and robots, where motor drivers are controlled by signals via a wireless link between a transmitter 102 and a receiver 106. (Figures 2 and 7) *Rothschild* states an advantage of providing a very simple and inexpensive control for a robot or toy. (Column 1, Lines 60 to 68) It would have been obvious to one having ordinary skill in the art to utilize watermark signals transmitted over a communication channel by *Chen et al.* ('826) for controlling motion of a robot as

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suggested by *Rothschild* for the purpose of providing a simple and inexpensive control for a toy.

Allowable Subject Matter

10. Claims 17, 18, 22, 26 to 29, 31, 35, and 38 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to Applicants' disclosure.

Curran, Rhoads ('377), and Linnartz et al. disclose related art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Martin Lerner whose telephone number is (703) 308-9064. The examiner can normally be reached on 8:30 AM to 6:00 PM Monday to Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil can be reached on (703) 305-9645. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for

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published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

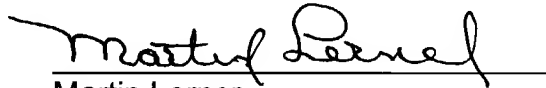
For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

ML

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A handwritten signature in black ink, appearing to read "Martin Lerner", written over a horizontal line.

Martin Lerner
Examiner
Group Art Unit 2654